

RESEARCH BRIEFS

Phorid flies: covering the landscape of imported fire ants in the USA

More than 20 species of *Pseudacteon* decapitating flies have been found attacking fire ants in Brazil and Argentina. Fire ant workers come in a range of sizes (2-5 mm). Big species of decapitating flies attack big fire ant workers and little species attack little ones.

March was time for a small celebration in Gainesville, Florida, when Sanford Porter and colleagues at the USDA-ARS Center for Medical, Agricultural and Veterinary Entomology found that *Pseudacteon cultellatus* flies released last September had successfully reproduced and overwintered. This fly is the smallest *Pseudacteon* species released in the United States. If populations of *P. cultellatus* persist, this will give Gainesville two medium-large flies (*P. tricuspis* -1997, *P. obtusus* - 2008), a small fly (*P. curvatus* - 2003), and a very small fly. The hope is that *P. cultellatus* will do especially well in multiple-queen fire ant colo-

nies which have much smaller workers than single-queen colonies.

Impacts of individual fly species on fire ant populations have been difficult to measure with paired tests because of rapid range expansion. Parasitism rates in the Gainesville area currently average about 1%, but some colonies can have as many as 6% of their workers parasitized. Recent studies have shown that *Pseudacteon* flies are carriers of the fire ant pathogen *Kneallhazia solenopsae* and studies are underway to determine if they vector this disease. Historical monitoring of changes in fire ant populations are underway to see if a community of decapitating flies which attacks all sizes of fire ants is associated with lower ant populations.



Pseudacteon cultellatus: with host, Red imported fire ant; in profile; and ovipositor close-up. All photos by Sanford Porter, USDA-ARS.